

REMARKS

In the Office Action, claims 1, 5, and 6 are rejected under 35 U.S.C. §102 as being anticipated; and claims 1-3 and 5-6 are rejected under 35 U.S.C. §103. Claim 1 has been amended; claim 2 has been canceled; and claims 4 and 7-15 have been withdrawn. Applicants believe that the rejections have been overcome in view of the amendments and for the reasons set forth below.

In the Office Action, claims 1, 5 and 6 are rejected under 35 U.S.C. §102 in view of U.S. Patent No. 5,962,062 (“Carrie”). As previously discussed, claim 1 has been amended. As amended, claim 1 essentially incorporates the features of claim 2. Claims 5 and 6 depend from claim 1. Claim 2 has been cancelled without prejudice or disclaimer. Therefore, Applicants believe that this rejection has been overcome and thus should be withdrawn.

In the Office Action, claims 1-3 and 5-6 are rejected under 35 U.S.C. §103 in view of Carrie and further in view of Broadbent et al., Kilstrup et al., and Volker et al.. The Patent Office primarily relies on Carrie and thus relies on the combined and alleged teachings of the remaining references to remedy the deficiencies of Carrie. Applicants believe that this rejection is improper.

At the outset, claim 2 has been canceled without prejudice or disclaimer as previously discussed, and thus, this rejection has been rendered moot in view of same. Of claims 1, 3 and 5-6, claim 1 is the sole independent claim, where claims 5 and 6 each depend therefrom. Claim 1 recites a method for protecting *Lactobacillus johnsonii* La1 against stress. The method includes treating *Lactobacillus johnsonii* La1 with a sublethal level of stress selected from the group consisting of thermal shock, osmotic shock, pH-shock, oxidative stress, chemical stress, nutritional stress, UV stress and cold stress; and treating with about 3.5% NaCl for 15 minutes.

Applicants have discovered that *Lactobacillus johnsonii* La1 can be protected against levels of stress that are lethal in unprotected bacteria. This can be done by subjecting the bacteria to a sublethal level of stress treatment. After the initial stress treatment, a higher level of stress is required to adversely affect the bacteria. This is unexpected because it was thought that cells which are damaged by stress would be less likely to cope with additional stress. In fact, the converse has been found where pre-stressed cells can withstand a higher stress level as compared to control cells which have not been pre-stressed. See, Specification, page 2, lines 25-33.

In contrast, Applicants believe that the cited art, even if combinable, is distinguishable from the claimed invention. As previously discussed, the Patent Office primarily relies on the Carrie reference. At the outset, Applicants question whether this reference can be properly applied as prior art in the first place. Carrie concerns a dietetically balanced milk product that contains a mixture of lipids of lactic origin and of vegetable origin. See, Carrie, col. 1, lines 5-7. Indeed, the claimed invention relates to a method for protecting *Lactobacillus johnsonii* La1 against stress. Therefore, Applicants believe that Carrie should be considered non-analogous art, and thus, should not be applied in this case for at least these reasons.

Assuming arguendo that Carrie can be properly applied as prior art, Carrie is deficient with respect to the claimed invention for at least a number of different reasons. As even admitted by the Patent Office, Carrie does not address a process of protecting *Lactobacillus johnsonii* La1 at the temperature and salt concentrations as claimed. See, Office Action, page 3. Again, the emphasis of Carrie relates to a dietetically balanced milk product. Indeed, Carrie merely teaches the addition of a starter culture of *Lactobacillus johnsonii* (La1) to a fermentation broth/mixture at 43°C and subsequent cooling to carry out fermentation.

Contrary to the Patent Office's apparent position, this clearly suggests that Carrie fails to recognize the problem of bacterial protection against stress that Applicants have sought to overcome. By subjecting the bacteria to a sublethal level of stress treatment, indeed, Applicants have discovered that *Lactobacillus johnsonii* La1 can be protected against levels of stress that are lethal in unprotected bacteria. Based on at least these reasons, Carrie on its own is clearly distinguishable from the claimed invention.

Further, Applicants believe that the remaining cited references, even if properly combinable with Carrie, fail to remedy the deficiencies of Carrie. For example, nowhere do the remaining cited references disclose or suggest a method for protecting *Lactobacillus johnsonii* La1 against stress. Broadbent et al. merely provides inducing stress tolerance in *Lactobacilli* against heat by heat shock and thus fails to consider other tolerance inducers, let alone salt induced heat protection for *Lactobacillus johnsonii* (La1) as required by the claimed invention.

Like Broadbent et al., Kilstrup et al. and Volker et al. fail to provide a method for protecting *Lactobacillus johnsonii* La1 against stress. Indeed, the emphasis of Kilstrup et al.

relates to the induction of heat shock proteins DnaK, GroEL, and GroES in *Lactococcus lactis*; and the emphasis of Volker et al. relates to the induction of stress proteins in *Bacillus subtilis*.

What the Patent Office has done is rely on hindsight reasoning in support of the obviousness rejection. Of course, this is improper. Again, Carrie does not even relate to protecting bacteria against stress. Indeed, the emphasis of Carrie relates to a dietetically balanced milk product as previously discussed. Why then would one skilled in the art be so inclined to apply the alleged teachings regarding, for example, heat treatment in bacteria as disclosed in Broadbent et al., Kilstrop et al., and Volker et al.. Therefore, Applicants do not believe that the cited art can be properly combined and/or modified to arrive at the claimed invention contrary to the Patent Office's position.

Accordingly, Applicants believe that the obviousness rejection with respect to claims 1-3 and 5-6 should be withdrawn.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,


BELL, BOYD & LLOYD LLC

BY 

Robert M. Barrett
Reg. No. 30,142
P.O. Box 1135
Chicago, Illinois 60690-1135
Phone: (312) 807-4204

Dated: July 20, 2004